Doctor's Guide — Medical & Other News

To print: Select File and then Print from your browser's menu

---

Title: **ACC: Novel Biomarkers May Help Identify Those With Normal LDL Cholesterol Levels Who Are at Risk**
URL: http://www.pslgroup.com/dg/22FBAA.htm
Doctor's Guide
April 4, 2003

By Bruce K. Dixon

CHICAGO, IL -- April 4, 2003 -- Novel biomarkers associated with inflammation and atherosclerosis may be useful in spotting high-risk individuals who are not identified by traditional risk factors such as low-density lipoprotein (LDL) cholesterol.

Data presented at the Annual Scientific Session of the American College of Cardiology suggest that 2 such markers -- lipoprotein-associated phospholipase A2 (Lp-PLA2) and high-sensitivity C-reactive protein (hs-CRP) -- are independently associated with the incidence of coronary heart disease (CHD).

Measurement of hs-CRP -- a protein marker of vessel inflammation -- had previously been recommended to identify high-risk patients with low LDL cholesterol who may benefit from statin therapy.

Lp-PLA2 is a unique enzyme that circulates with lipoproteins, primarily LDL particles, and which hydrolyzes oxidized phospholipids. Lp-PLA2 was previously described as a novel risk factor for cardiac events in the October 19, 2000 issue of *The New England Journal of Medicine*.

Christie M. Ballantyne, MD, of the Baylor College of Medicine, Houston, Texas, United States, said the purpose of the study was to evaluate the association of CHD events with the levels of Lp-PLA2 and hs-CRP in a case cohort study design stratified by LDL cholesterol. The 6-year study involved nearly 13,000 apparently healthy middle-aged American men and women enrolled in the Atherosclerosis Risk in Communities (ARIC) study. Over a 6- to 8-year follow-up period, 609 individuals had CHD incidents and were selected as the case group. The control group included 741 individuals from a cohort random sample.

Those in the CHD group had significantly increased levels of Lp-PLA2 (404 vs 372) and hs-CRP (4.05 vs 3.04 - P=0.001). The enzyme was positively correlated with LDL cholesterol and negatively correlated with high-density lipoprotein (HDL) cholesterol. There was no correlation with blood pressure or C-reactive protein.

PM3006731354

Source: https://www.industrydocuments.ucsf.edu/docs/qxvj0001

Adjusting for age, sex, and race, those in the highest Lp-PLA2 tertile (>/=420 µg/L) had a mean increased CHD odds ratio of 1.77. Adjusting for all traditional risk factors, including LDL and HDL cholesterol, the ratio attenuated at 1.16, and there was a statistical interaction between Lp-PLA2 and LDL. But among those with LDL-C levels <130 mg/dL, the mean CHD risk ratio was doubled.

Among the <130 mg/dL LDL-C group, those whose hs-CRP levels were >3.0 mg/dL (considered high risk) had a 1.76-fold increased risk of CHD, after adjusting for other risk factors.

Additionally, In the cohort with LDL-C levels below the median (<130 mg/dL) the overall mean CHD risk ratio was 3.1 (P=0.002).

Dr. Ballantyne concludes, "The levels of Lp-PLA2 are higher in incident CHD cases. In individuals with low levels of LDL cholesterol, the levels are independently associated with incident CHD, even after adjustment for traditional risk factors and hs-CRP. Lp-PLA2 and CRP are individually and independently predictive of incident CHD, and individuals with high levels of both have the greatest risk for CHD in the group with low levels of LDL cholesterol.

It was pointed out that one third to one half of heart attacks occur among individuals with LDL cholesterol levels below 130. "Unfortunately, many people with 'normal' LDL cholesterol are not targeted for preventive therapies because they are not considered at risk for heart disease. Based on our findings, this study is a valuable step in developing preventive strategies that may utilize blood tests for Lp-PLA2 and CRP to identify high-risk patients."

Blood levels of Lp-PLA2 were measured with the *PLAC* assay developed by DiaDexus, Inc. The study was funded with grants from DiaDexus and the National Heart, Lung and Blood Institute.

[Study title: Lipoprotein-Associated Phospholipase A2 Levels and Risk for Incident Coronary Heart Disease in Middle-Aged Men and Women in the ARIC Study]

Copyright © 1999 P\S\L Consulting Group Inc. All rights reserved. Republication or redistribution of P\S\L content is expressly prohibited without the prior written consent of P\S\L. P\S\L shall not be liable for any errors, omissions or delays in this content or any other content on its sites, newsletters or other publications, nor for any decisions or actions taken in reliance on such content.

This news story was printed from *Doctor's Guide to the Internet*
located at http://www.docguide.com

Return to News Story Page

This site is maintained by webmaster@pslgroup.com
Please contact us with any comments, problems or bugs.
All contents Copyright (c) 1998 P\S\L Consulting Group Inc.
All rights reserved.

PM3006731355

Source: https://www.industrydocuments.ucsf.edu/docs/qxvj0001